



General

Guideline Title

Adult asthma care: promoting control of asthma, second edition.

Bibliographic Source(s)

Registered Nurses' Association of Ontario (RNAO). Adult asthma care: promoting control of asthma, second edition. Toronto (ON): Registered Nurses' Association of Ontario (RNAO); 2017 May. 124 p. [184 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Registered Nurses Association of Ontario (RNAO). Adult asthma care guidelines for nurses: promoting control of asthma. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2004 Mar. 104 p. [119 references]

Registered Nurses Association of Ontario (RNAO). Adult asthma care guidelines for nurses: promoting control of asthma: supplement. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2007 Feb. 15 p. [38 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report Clinical Practice Guidelines We Can Trust.

Poor Fair Good Fill Very Good Very Good Fill Control Control

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
	Disclosure and Management of Financial Conflict of Interests

	Guideline Development Group Composition
YES	Multidisciplinary Group
UNKNOWN	Methodologist Involvement
	Patient and Public Perspectives
	Use of a Systematic Review of Evidence
	Search Strategy
	Study Selection
	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
	Grading the Quality or Strength of Evidence
	Benefits and Harms of Recommendations
	Evidence Summary Supporting Recommendations
	Rating the Strength of Recommendations
Ш	Specific and Unambiguous Articulation of Recommendations
	External Review
	Updating

Recommendations

Major Recommendations

Definitions for the levels of evidence (Ia, Ib, IIa, IIb, III, IV, V) are provided at the end of the "Major Recommendations" field.

Practice Recommendations

Assessment

Recommendation 1.1

At initial encounter, identify adults with an asthma diagnosis by reviewing the health record for an established asthma diagnosis, supported by the use of objective lung function measurements, and by asking two questions:

Have you ever been told by a health care provider that you have asthma? Have you ever used a puffer/inhaler or asthma medication for breathing problems? (Level of Evidence = V)

Recommendation 1.2a

At every encounter, assess the person's current level of asthma control according to the following criteria:

Need for a fast-acting beta₂-agonist <4 doses/week (including for exercise)

Daytime symptoms <4 times/week

Nighttime symptoms <1 time/week

Normal physical activity levels

Mild, infrequent exacerbations

No absence from work or school

Forced expiratory volume in first second (FEV₁) or peak expiratory flow (PEF) ≥90% of personal

best*‡

Diurnal PEF variation <10%-15%*‡

Sputum eosinophils <2%-3%*‡

(Level of Evidence = V)

*Indicates important objective information for a complete assessment of asthma control, but may not be available.

‡Performed and interpreted within health-care-provider scope of practice (including appropriate knowledge and skills) and in alignment with organizational policies and procedures.

Recommendation 1.2b

For adults with uncontrolled asthma, determine whether the person is currently experiencing an asthma exacerbation and, if so, the severity and need for urgent medical attention.

(Level of Evidence = V)

Recommendation 1.3

At every encounter, assess the person's risk of future asthma exacerbations according to the following criteria:

Current control of asthma

Severe exacerbations experienced

Exacerbations requiring systemic corticosteroids

Use of emergency care or hospitalizations for asthma

(Level of Evidence = V)

Recommendation 1.4

At every encounter, identify factors affecting the complexity of asthma management for the person, including age, sex, smoking habits, social determinants of health, triggers, and co-morbidities.

(Level of Evidence = IV)

Planning

Recommendation 2.1

Develop an individualized, person-centred asthma education plan that addresses the following:

Learning needs (Level of Evidence = Ib)

Culture (Level of Evidence = Ib)

Health literacy (Level of Evidence = IV)

Empowerment (Level of Evidence = IV)

(Levels of Evidence = Ib & IV)

Implementation

Recommendation 3.1a

Provide asthma education as an essential component of care.

(Levels of Evidence = Ia)

Recommendation 3.1b

Educate the person on the essential skills and self-management of asthma based on the person's learning needs, including:

Pathophysiology of asthma
Medications and device technique
Self-monitoring
Action plans
Trigger identification and management
Smoking cessation (if applicable)

(Levels of Evidence = Ib)

Recommendation 3.2

Evaluate non-pharmacological interventions for effectiveness and for potential interactions with pharmacological interventions.

(Levels of Evidence = V)

Recommendation 3.3a

At every encounter, actively educate on correct inhaler device technique through observation, feedback, physical demonstration, and written instructions.

(Levels of Evidence = Ib)

Recommendation 3.3b

Engage the person with asthma in shared decision-making with regard to the selection of an inhaler device.

(Levels of Evidence = Ia)

Recommendation 3.3c

Educate the person with asthma on the difference between controller and reliever medications, their indications, and their potential side effects.

(Levels of Evidence = V)

Recommendation 3.4

Where appropriate, assist and educate persons with asthma to measure their peak expiratory flow.

(Levels of Evidence = V)

Recommendation 3.5

To support self-management, collaborate with the person with asthma to develop and review a documented asthma action plan ($Level\ of\ Evidence=Ib$), in one or a combination of the following formats:

In writing, on paper (Level of Evidence = Ib)

```
Electronically (Level of Evidence = V)
Pictorially (Level of Evidence = IIa)
```

(Levels of Evidence = Ib, IIa, & V)

Recommendation 3.6

Provide integrated asthma self-management support to adults with uncontrolled asthma who are at risk for severe exacerbations through multiple modalities/formats, such as:

Home-care visits (Level of Evidence = Ib)
Telehealthcare (Level of Evidence = Ia)

(Level of Evidence = Ia & Ib)

Recommendation 3.7

Refer and connect persons with asthma to a:

Primary care provider

Certified asthma educator or certified respiratory educator

(Level of Evidence = IV)

Evaluation

Recommendation 4.1

At every encounter, evaluate the effectiveness of the overall plan of care in achieving asthma control.

(Level of Evidence = V)

Education Recommendations

Education

Recommendation 5.1a

Develop multifaceted education programs that reinforce standardized, evidence-based asthma care for:

Health-care providers (Level of Evidence = IIb) Students entering health-care professions (Level of Evidence = V)

(Levels of Evidence = IIb & V)

Recommendation 5.1b

Implement evidence-based education programs for health-care providers and students entering health-care professions that are facilitated by knowledgeable and skilled educators, and that focus on the core competencies of asthma care.

(Level of Evidence = V)

Recommendation 5.2

Asthma educators obtain and maintain a certified asthma educator or certified respiratory educator designation.

(Level of Evidence = V)

Recommendation 5.3

Provide a quality assurance program and standardized training for health-care providers who perform spirometry.

(Level of Evidence = V)

Organization and Policy Recommendations

Organization and Policy

Recommendation 6.1

Organizations establish a corporate priority focused on the integration and evaluation of best practice asthma care across all care settings.

(Level of Evidence = V)

Recommendation 6.2

Organizations provide the resources and professional training necessary to integrate best practices for the assessment and management of adult asthma across all care settings.

(Level of Evidence = V)

Definitions

Levels of Evidence

Ia Evidence obtained from meta-analysis or systematic reviews of randomized controlled trials, and/or synthesis of multiple studies primarily of *quantitative* research.

Ib Evidence obtained from at least one randomized controlled trial.

IIa Evidence obtained from at least one well-designed controlled study without randomization.

IIb Evidence obtained from at least one other type of well-designed quasi-experimental study, without randomization.

III Synthesis of multiple studies primarily of qualitative research.

IV Evidence obtained from well-designed non-experimental observational studies, such as analytical studies or descriptive studies, and/or qualitative studies.

V Evidence obtained from expert opinion or committee reports, and/or clinical experiences of respected authorities.

Adapted from the Scottish Intercollegiate Guidelines Network (Scottish Intercollegiate Guidelines Network [SIGN], 2011) and Pati (2011).

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Asthma

Guideline Category

Counseling

Evaluation

Management

Treatment

Clinical Specialty

Allergy and Immunology

Family Practice

Internal Medicine

Nursing

Pulmonary Medicine

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers

Nurses

Respiratory Care Practitioners

Guideline Objective(s)

- To provide nurses and other health-care providers with evidence-based recommendations of foundational asthma care for adults with a diagnosis of asthma
- To assist nurses and other health-care providers help persons with asthma achieve asthma control, thereby minimizing and, ideally, preventing morbidity and mortality and improving quality of life
- To enhance the quality of nurses' practice pertaining to the assessment and management of adult asthma, ultimately improving clinical and health outcomes through the use of evidence-based practices

Target Population

Adults (aged 18 and older) who have received an established or confirmed diagnosis of asthma from an appropriate health-care provider, as defined by the Canadian Thoracic Society (CTS)

Note: Several populations and conditions are beyond the scope of this guideline. These include:

Assessment and management recommendations specific to children Asthma – chronic obstructive pulmonary disease (COPD) overlap syndrome Assessment and management recommendations specific to asthma in pregnancy Pharmacological management of asthma Work-related asthma

Interventions and Practices Considered

Evaluation

Identifying adults with an asthma diagnosis
Assessment of level of asthma
Determining presence of an asthma exacerbation and risk of future exacerbations

Identifying factors affecting the complexity of asthma management for the person

Management/Treatment/Counseling

Developing an individualized asthma education plan and providing asthma education including education in asthma self-management

Evaluating non-pharmacological interventions for effectiveness and potential interactions with pharmacological interventions

Providing inhaler/device technique education

Shared decision-making with regard to the selection of an inhaler device

Assisting and educating persons with asthma to measure their peak expiratory flow

Developing and reviewing a documented asthma action plan

Referral to primary care provider and asthma educator

Evaluating the effectiveness of the overall plan of care in achieving asthma control

Developing and implementing multifaceted education programs that reinforce standardized,

evidence-based asthma care for health-care providers and students

Organizational-level implementation of comprehensive, evidence-based asthma care

Major Outcomes Considered

- Asthma control
- Medication adherence
- Healthcare utilization
- Classification of asthma control and severity
- Frequency of exacerbations and symptoms
- Emergency department (ED) visits and hospitalizations
- · Quality of life
- Patient satisfaction
- increased/improved knowledge among health-care providers and students regarding asthma control and asthma care
- · Increased/improved skills among health-care providers working with adults with asthma
- Effective asthma control assessment
- · Effective management of individuals with asthma to improve asthma control
- Organizational support
- Optimal assessment and management of asthma

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Guideline Review

The Registered Nurses' Association of Ontario (RNAO) guideline development team's project coordinator searched an established list of Web sites for guidelines and other relevant content published between May 2006 and December 2015. This list was compiled based on knowledge of evidence-based practice

websites, recommendations from the literature, and key Web sites related to adult asthma care. Furthermore, expert panel members were asked to provide guidelines from their own personal libraries. Detailed information about the search strategy for existing guidelines, including the list of Web sites searched and inclusion criteria, is available at the RNAO Web site

Systematic Review

A comprehensive search strategy was developed by RNAO's research team and a health sciences librarian, based on inclusion and exclusion criteria created with the RNAO expert panel. A search for relevant articles in English published between May 2006 and December 2015 was applied to the following databases: Cumulative Index to Nursing and Allied Health (CINAHL), Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Database of Systematic Reviews (CDSR), Education Resources Information Center (ERIC [research question 3 only]), EMBASE, MEDLINE, MEDLINE in Process, and PsycINFO. In addition to this systematic search, panel members were asked to review personal libraries for key articles not found through the above search strategies.

Detailed information about the search strategy for the systematic review, including the inclusion and exclusion criteria as well as search terms, is available in the guideline search strategy document (see the "Availability of Companion Documents" field).

Once articles were retrieved, three RNAO Best Practice Guideline (BPG) nursing research associates (nurses holding master's degrees) independently assessed the eligibility of the studies according to established inclusion/exclusion criteria. The RNAO's BPG program manager involved in supporting the RNAO expert panel resolved disagreements.

Hand Search

Panel members were asked to review personal libraries to identify key articles not found through the above search strategies. Articles identified by panel members were included in the search results if two nursing research associates independently determined the articles had not been identified by the literature search and met the inclusion criteria.

Number of Source Documents

Six guidelines and 88 studies were included. See the Guidelines Review Process Flow Diagram and the Article Review Process Flow Diagram in Appendix C in the original guideline document for more information on the review process.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence

Ia Evidence obtained from meta-analysis or systematic reviews of randomized controlled trials, and/or synthesis of multiple studies primarily of *quantitative* research.

Ib Evidence obtained from at least one randomized controlled trial.

IIa Evidence obtained from at least one well-designed controlled study without randomization.

IIb Evidence obtained from at least one other type of well-designed quasi-experimental study, without randomization.

III Synthesis of multiple studies primarily of qualitative research.

IV Evidence obtained from well-designed non-experimental observational studies, such as analytical studies or descriptive studies, and/or qualitative studies.

V Evidence obtained from expert opinion or committee reports, and/or clinical experiences of respected authorities.

Adapted from the Scottish Intercollegiate Guidelines Network (Scottish Intercollegiate Guidelines Network [SIGN], 2011) and Pati (2011).

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Guideline Review

The Registered Nurses' Association of Ontario (RNAO) research team critically appraised 12 international guidelines using the *Appraisal of Guidelines for Research and Evaluation Instrument II* (Brouwers et al., 2010). Four guidelines were removed based on their relatively low methodological quality. Members of the expert panel reviewed the remaining eight guidelines and associated quality appraisal scores. From this review, six guidelines were selected to inform the recommendations and discussions of evidence.

Systematic Review

Quality appraisal scores for 41 articles (a random sample of approximately 25 percent of articles eligible for data extraction and quality appraisal) were independently assessed by three RNAO Best Practice Guideline (BPG) research associates. Acceptable inter-rater agreement between all three research associates (kappa statistic, K=0.97, 0.87 and 0.89) justified proceeding with quality appraisal and data extraction by dividing the remaining studies equally between the three research associates. A final summary of literature findings was completed. The comprehensive data tables and summary were provided to all expert panel members for review and discussion.

A complete bibliography of all full text articles screened for inclusion is available (see the "Availability of Companion Documents" field).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Guideline Development Process

For this revised guideline, Registered Nurses' Association of Ontario (RNAO) assembled a panel of experts who represent a range of sectors and practice areas. A systematic review of the evidence was based on the purpose and scope of the original guideline, *Adult Asthma Care Guidelines for Nurses: Promoting Control of Asthma* (2004) and the revision supplement (2007), and was supported by the four clinical questions listed below. The systematic review captured relevant peer-reviewed literature and guidelines published between May 2006 and December 2015. The following research questions were established to guide the systematic review:

What are the appropriate nursing assessment strategies to use with adults living with asthma to achieve optimal asthma control?

What are the appropriate nursing management strategies to use with adults living with asthma to achieve optimal asthma control?

What education and training do nurses require to assist persons living with asthma to achieve optimal asthma control?

What organization or health-system level supports are needed to enable health-care providers to assist persons living with asthma to achieve optimal asthma control?

The expert panel's mandate was to review the original guideline and the revision supplement in light of the new evidence to ensure the continuing validity, appropriateness, and safety of the recommendations. This new revised guideline is the result of the expert panel's work to integrate the most current and best evidence into the recommendations with the supporting evidence from original guideline and the revision supplement (where applicable).

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Stakeholder reviewers are individuals who have expertise in the subject matter of the guideline, are representatives of organizations involved in implementing the guideline, or are affected by the implementation of the guideline. Reviewers may be nurses and other point-of-care health-care providers, nurse executives, administrators, research experts, members of interdisciplinary teams, educators, nursing students, or individuals who have personal experience with asthma. The Registered Nurses' Association of Ontario (RNAO) aims to solicit stakeholder expertise and perspectives representing a diversity of health-care sectors, roles within nursing and other professions (e.g., clinical practice, research, education, and policy), and geographic locations.

Stakeholder reviewers for the RNAO guidelines are identified in two ways. First, stakeholders are recruited through a public call issued on the RNAO Web site (http://rnao.ca/bpg/get-involved/stakeholder). Second, individuals and organizations with expertise in the guideline topic area are identified by the RNAO guideline development team and expert panel and are directly invited to participate in the review.

Reviewers are asked to read a full draft of the guideline and participate in the review prior to its publication. Stakeholder feedback is submitted online by completing a survey questionnaire. The stakeholders are asked the following questions about each recommendation:

Is this recommendation clear?

Do you agree with this recommendation?

Is the discussion of evidence thorough and does the evidence support the recommendation?

The survey also provides an opportunity for stakeholders to include comments and feedback for each section of the guideline.

Survey submissions are compiled and feedback is summarized by the RNAO Guideline development team. The RNAO development team and expert panel reviews and considers all feedback and, if necessary, modifies the guideline content and recommendations prior to publication to address the feedback received.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Nurses, other health-care providers, and administrators who lead and facilitate practice changes will find this document invaluable for developing policies, procedures, protocols, educational programs and assessments, interventions, and documentation tools. Nurses and other health-care providers in direct care will benefit from reviewing the recommendations and the evidence that supports them.
- Nurses provide care for persons with asthma in a multitude of settings and are in a unique position to promote asthma control. Evidence-based asthma care can lead to optimal asthma control. Evidence-based care includes self-management education, creating documented asthma action plans in collaboration with persons with asthma, promoting appropriate medication use, and coordinating appropriate follow-up care. Optimizing asthma control can improve quality of life for the person with asthma and can reduce urgent/emergent related health-care visits and health-care costs.
- A strong quality Cochrane meta-analysis showed that provision of educational interventions either during or following emergency department visits decreased the risk of future hospital admissions, and improved scheduled appointment attendance and symptom control.
- Actively educating (i.e., one-on-one coaching) persons with asthma on correct inhaler device technique has been shown to lead to improved technique.
- A moderate quality observational study found that individuals who received primary care supplemented with a certified respiratory educator (CRE) were more likely to receive comprehensive asthma care that included asthma education and regular follow-up care.

Refer to the "Discussion of Evidence" sections of the original guideline document for further discussion of benefits of individual recommendations.

Potential Harms

Asthma medications are associated with potential side effects. For more information on medication potential side effects of asthma medications, please see Appendix L of the original guideline document.

Qualifying Statements

Qualifying Statements

- These guidelines are not binding on nurses or the organizations that employ them. The use of these guidelines should be flexible, and based on individual needs and local circumstances. They neither constitute a liability nor discharge from liability. While every effort has been made to ensure the accuracy of the contents at the time of publication, neither the authors nor the Registered Nurses' Association of Ontario (RNAO) gives any guarantee as to the accuracy of the information contained in them or accepts any liability with respect to loss, damage, injury, or expense arising from any such errors or omission in the contents of this work.
- This nursing Best Practice Guideline (BPG) is a comprehensive document that provides resources for evidence-based nursing practice. It is not intended to be a manual or "how to" guide, but rather a tool to guide best practices and enhance decision-making for nurses and other health-care providers working with adults living with asthma. The Guideline should be reviewed and applied in accordance with both the needs of individual organizations or practice settings, and the needs and preferences of persons and their families accessing the health system for care and services. In addition, the Guideline provides an overview of appropriate structures and supports for providing the best possible evidence-based care.

Implementation of the Guideline

Description of Implementation Strategy

Implementation Strategies

Implementing guidelines at the point of care is multi-faceted and challenging; it takes more than awareness and distribution of guidelines for practice to change. Guidelines must be adapted for each practice setting in a systematic and participatory way, to ensure recommendations fit the local context. The Registered Nurses' Association of Ontario (RNAO) *Toolkit: Implementation of Best Practice Guidelines* (2nd ed.; 2012) provides an evidence-informed process for doing this (see Appendix Q in the original guideline document).

The Toolkit is based on emerging evidence that successful uptake of best practice in health care is more likely when:

Leaders at all levels are committed to supporting guideline implementation

Guidelines are selected for implementation through a systematic, participatory process

Stakeholders for whom the guidelines are relevant are identified and engaged in the implementation

Environmental readiness for implementing guidelines is assessed

The guideline is tailored to the local context

Barriers and facilitators to using the guideline are assessed and addressed

Interventions to promote use of the guideline are selected

Use of the guideline is systematically monitored and sustained

Evaluation of the guideline's impact is embedded in the process

There are adequate resources to complete all aspects of the implementation

The Toolkit uses the "Knowledge-to-Action" framework to demonstrate the process steps required for knowledge inquiry and synthesis. It also guides the adaptation of the new knowledge to the local context and implementation. This framework suggests identifying and using knowledge tools, such as guidelines, to identify gaps and to begin the process of tailoring the new knowledge to local settings.

RNAO is committed to widespread deployment and implementation of the Best Practice Guidelines (BPGs). RNAO uses a coordinated approach to dissemination, incorporating a variety of strategies, including:

The Nursing Best Practice Champion Network®, which develops the capacity of individual nurses to foster awareness, engagement, and adoption of BPGs

Nursing Order Sets, which provide clear, concise, actionable intervention statements derived from the

BPGs' practice recommendations that can be readily embedded within electronic medical records, but may also be used in paper-based or hybrid environments

The Best Practice Spotlight Organization® (BPSO®) designation, which supports implementation at the organization and system levels. BPSOs® focus on developing evidence-based cultures with the specific mandate to implement, evaluate, and sustain multiple RNAO BPGs

In addition, RNAO offers capacity-building learning institutes on specific BPGs and their implementation annually. Information about RNAO implementation strategies can be found at:

RNAO Best Practice Champions Network®: http://RNAO.ca/bpg/get-involved/champions
RNAO Nursing Order Sets: http://RNAO.ca/bpg/initiatives/nursing-order-sets
RNAO Best Practice Spotlight Organizations®: http://RNAO.ca/bpg/bpso
RNAO capacity-building learning institutes and other professional development opportunities:
http://RNAO.ca/events

Implementation Tools

Audit Criteria/Indicators

Foreign Language Translations

Mobile Device Resources

Patient Resources

Tool Kits

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Registered Nurses' Association of Ontario (RNAO). Adult asthma care: promoting control of asthma, second edition. Toronto (ON): Registered Nurses' Association of Ontario (RNAO); 2017 May. 124 p. [184 references]

Adaptation

Not applicable: The quideline was not adapted from another source.

Date Released

2017 May

Guideline Developer(s)

Registered Nurses' Association of Ontario - Professional Association

Source(s) of Funding

This work is funded by the Ontario Ministry of Health and Long-Term Care. All work produced by the Registered Nurses' Association of Ontario (RNAO) is editorially independent from its funding source.

Guideline Committee

Registered Nurses' Association of Ontario (RNAO) Best Practice Guidelines Expert Panel

Composition of Group That Authored the Guideline

Guidelines Expert Panel Members: Lisa Cicutto RN, PhD, ACNP, CAE (Expert Panel Co-Chair), Director, Community Outreach and Research, National Jewish Health, Director, Clinical Science Graduate Program, College of Nursing and Colorado School of Public Health, University of Colorado Denver, Denver, Colorado; Delanya Podgers, RN(EC), MN, BSc, CRE (Expert Panel Co-Chair), Nurse Practitioner, Asthma & COPD, Kingston General Hospital, Kingston, Ontario; Ann Bartlett, RN, MSc, BScN, CRE, Clinical Nurse Specialist, Firestone Institute for Respiratory Health, St. Joseph's Healthcare Hamilton, Assistant Clinical Professor, McMaster University, Hamilton, Ontario; JoAnn Carey, RN, Charge Nurse Emergency (ONA Representative), Niagara Health System, Niagara Falls, Ontario; Julie Duff Cloutier, RN, MSc, CAE, PhD Student, Assistant Professor, School of Nursing, Laurentian University, Sudbury, Ontario; Kirsten Edwards, RPN, Staff Nurse, Michael Garron Hospital, Toronto, Ontario; Maryse Larose, PT, BSc, MScPT, CRE, Physiotherapist/Case Manager (October 2015-August 2016), Health Sciences North/Horizon Santé-Nord, Pulmonary Rehabilitation and Adult Asthma Clinic, Medical Student, Class of 2020, Northern Ontario School of Medicine/École de médecine du Nord de l'Ontario (September 2016-present), Sudbury, Ontario; Meeran Manji, RN, CRE, Nurse Coordinator, Pulmonary Rehabilitation Clinic, Toronto Western Hospital, University Health Network, Toronto, Ontario; Elizabeth McGroarty, RN, COHN, CHRM, Work-Related Asthma Project Coordinator, The Lung Association—Ontario, Toronto, Ontario; Christine Miller, MPH, BEd, NP-PHC, CRE, Nurse Practitioner, Primary Health Care, Lakehead Nurse Practitioner Led Clinic, Thunder Bay, Ontario; Tim Pauley, MSc, Manager, Research & Evaluation, West Park Healthcare Centre, Manager, Research & Knowledge Mobilization, Toronto Central Community Care Access Centre, Toronto, Ontario; Gemma Styling, BA, RRT, CRE, KTPC, Provincial Coordinator, Primary Care Asthma Program, The Lung Association -Ontario, Toronto, Ontario; Pamela Wilton, RN, CRE, Staff Nurse, The Asthma Centre, St. Joseph's Health Care London, London, Ontario

Financial Disclosures/Conflicts of Interest

Declarations of interest that might be construed as constituting an actual, potential, or apparent conflict were made by all members of the Registered Nurses' Association of Ontario (RNAO) expert panel, and members were asked to update their disclosures throughout the guideline development process.

Information was requested about financial, intellectual, personal, and other interests and documented for future reference. No limiting conflicts were identified.

Further details are available from the RNAO (see the "Availability of Companion Documents" field).

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Registered Nurses Association of Ontario (RNAO). Adult asthma care guidelines for nurses: promoting control of asthma. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2004 Mar. 104 p. [119 references]

Registered Nurses Association of Ontario (RNAO). Adult asthma care guidelines for nurses: promoting control of asthma: supplement. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2007 Feb. 15 p. [38 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideli	ine Av	ailability
---------	--------	------------

Available from the Registered Nurs	es' Association of Ontario (RNAO) Web site	
aaaaaaaaa		

Availability of Companion Documents

The following are available:

	Registered Nurses' Association of Ontario – Nursing Best Practice Guidelines Program. Adult asthma
	care: promoting control of asthma, second edition. Systematic review search strategy. Toronto (ON):
	Registered Nurses Association of Ontario (RNAO); 2017 Mar. 8 p. Available from the Registered
	Nurses Association of Ontario (RNAO) Web site
	Registered Nurses' Association of Ontario – Nursing Best Practice Guidelines Program. Adult asthma
	care: promoting control of asthma, second edition. Systematic review bibliography. Toronto (ON):
	Registered Nurses Association of Ontario (RNAO); 2017 Mar. 15 p. Available from the RNAO Web
	site
	Registered Nurses' Association of Ontario – Nursing Best Practice Guidelines Program. Adult asthma
	care: promoting control of asthma, second edition. Declaration of interests. Toronto (ON): Registered
	Nurses Association of Ontario (RNAO); 2017 Mar. 2 p. Available from the RNAO Web site
	Toolkit: implementation of best practice guidelines, second edition. Toronto (ON): Registered Nurses
	Association of Ontario (RNAO); 2017 Mar. 154 p. Available in English and French from the RNAO Web
	site
٠.	
	ucture, process and outcome indicators for monitoring and evaluating the guideline are available in
Гab	le 5 in the original guideline document.
Mot	oile versions of RNAO guidelines are available from the RNAO Web site

Patient Resources

The following is available:

Helping you control your asthma: a fact sheet for adults living with asthma. Toronto (O)N):
Registered Nurses Association of Ontario (RNAO); 2017 Mar. 2 p. Available from the Re	gistered
Nurses Association of Ontario (RNAO) Web site	

The appendices of the original guideline document ______ include a sample action diary, device technique teaching resources for patients, an asthma medication comparison table, advice on using a peak flow meter, and a sample written asthma action plan.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI on September 16, 2004. The information was verified by the guideline developer on October 14, 2004. This NGC summary was updated by ECRI Institute on December 28, 2007. The updated information was verified by the guideline developer on March 4, 2008. This summary was updated by ECRI Institute on May 14, 2010 following the U.S. Food and Drug Administration (FDA) advisory on Long-Acting Beta-Agonists (LABAs). This summary was updated by ECRI Institute on July 10, 2017. The updated information was verified by the guideline developer on August 1, 2017.

This NEATS assessment was completed by ECRI Institute on July 25, 2017. The information was verified by the guideline developer on July 28, 2017.

Copyright Statement

With the exception of those portions of this document for which a specific prohibition or limitation against copying appears, the balance of this document may be produced, reproduced, and published in its entirety, without modification, in any form, including in electronic form, for educational or non-commercial purposes. Should any adaptation of the material be required for any reason, written permission must be obtained from Registered Nurses' Association of Ontario. Appropriate credit or citation must appear on all copied materials as follows:

Registered Nurses' Association of Ontario (2017). Adult Asthma Care: Promoting Control of Asthma (2nd ed). Toronto, Canada: Registered Nurses Association of Ontario.

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ, ¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers	with	questior	ns regar	ding gu	ıideline	conter	nt are c	lirected	to con	tact th	e guide	eline de	velope	r.